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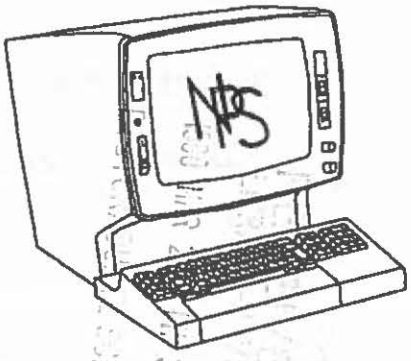
Monterey, California, Naval Postgraduate School

Computer Center BULLETIN



Naval Postgraduate School Monterey, California

March 29, 1990

IMPORTANT ANNOUNCEMENT

VS FORTRAN 2 Replaces 1

In the last issue of the *Bulletin* we discussed how users can modify their MVS job control language to invoke IBM's VS Fortran Version 2 (VSF2) in lieu of Version 1 (VSF1). In this issue we are serving notice that **VSF2 will become the standard version of that compiler at the end of the spring quarter.** This will be around 1 July; the exact date will be announced later.

On MVS, VSF1 will be completely unavailable. On CMS the older version will not be available except after consultation with the programming staff.

VM/CMS Considerations

On the timesharing system, users must alter their GLOBAL TXTLIB and GLOBAL LOADLIB statements to use VSF2. The correct forms of these statements will become:

```
GLOBAL TXTLIB VSF2FORT CMSLIB ...(etc., e.g., IMSLSP)
GLOBAL LOADLIB VSF2LOAD
```

Normally most users place these statements in their PROFILE EXEC files.

To invoke the new compiler issue:

```
FORTVS2 <fn> (options
```

where the options are the same as under VSF1, except for some additional features, some of which have been discussed in previous issues of the *Bulletin*.

In addition, the RUN exec will be altered to use the VSF2 compiler when the second argument is FORTRAN. (This indicates to the RUN exec that compilation is required prior to loading and execution.)

We believe it will be possible at the beginning of the summer quarter to give all users sufficient storage at login time to meet the requirements of the VSF2 compiler. However, until then users who are adapting to VSF2 must use the following two additional commands (probably in their PROFILE EXECs).

```
EXEC GETSTOR 1500K
EXEC FORTLINK
```

The FORTLINK must be used prior to issuing the GLOBAL TXTLIB and GLOBAL LOADLIB described above. The EXEC FORTLINK and GETSTOR 1500K commands should be deleted after 1 July.

MVS Considerations

On the batch system users must edit the files of job control language which they SUBMIT for processing. In most cases the only change required will be in the name of the cataloged procedure to be invoked. The new names are shown below:

VSF2CLG Compile, linkedit, execute

VSF2C Compile only

VSF2CL Compile and linkedit

VSF2CG Compile and run with loader program

VSF2G Load previously compiled/linkedited program and go

VSF2CLGD Compile, linkedit, and run with DISSPLA output

VSF2CLD Compile and linkedit with DISSPLA libraries

Previous names are similar, except "FORTV" or "FRTV" appears in place of "VSF2". There are other cataloged procedures for special purposes. Use the GETPROC exec to see the exact form of any procedure.

Compatibility Notes

All source programs that compiled under VSF1 will compile properly under VSF2. Also, in general, VSF1 TEXT (object program) files may be mixed with such files compiled by VSF2, **provided the Version 2 libraries (VSF2FORT and VSF2LOAD) are used.** If for some obscure reason previously compiled programs stop working properly, the easiest solution will be to recompile using VSF2.

For further information or assistance contact Dennis Mar, In-102A, x2672, userid 2001P; Neil Harvey, In-108, x2088, userid 1770P; or Roger Hilleary, In-133, x2752, userid 0002P.

Roger Hilleary

SPRING QUARTER TALKS

The Computer Center staff will give thirty-seven talks at the beginning of this quarter to acquaint users with the various facilities of the VM/CMS timesharing and MVS batch systems available on the mainframe and with the services available in the Center's Microcomputer Lab. In addition, Prof. P. A. W. Lewis (OR) will present two introductory talks about interactive statistical/graphical services using APL.

The following five talks will be given in the Ingersoll Hall auditorium In-122). *Signup for these sessions is not required.*

Introduction to VM/CMS: In-122

1410 Wednesday	4 April	Roger Hilleary In-122
1410 Monday	9 April	Roger Hilleary In-122

This talk is given twice; it assumes no prior knowledge of the Center's computer. Topics to be covered include the use of the 3278 terminal, how to logon and logoff, use of the function keys, the HELP facility, and various general-purpose commands. It is strongly recommended for all new users of the Center and covers information which may not be provided in an introductory programming class. Be sure to bring a copy of Technical Note VM-01, *User's Guide to VM/CMS at NPS*. A copy of this publication is usually provided when a new user registers in In-147. (Those without computer experience may wish to consider instead the Center talk *Hands on Mainframe*.)

Introduction to XEDIT: In-122

1510 Wednesday	4 April	Helen Davis In-122
1510 Monday	9 April	Helen Davis In-122

This talk is presented twice. It provides elementary information about the XEDIT full screen editor. The main emphasis is on methods for creating and changing programs and other files. Use of the PF keys and HELP facility in XEDIT are mentioned. The talk assumes little or no familiarity with XEDIT, but prior attendance at *Introduction to VM/CMS* is recommended. (Those without computer experience may wish to consider instead the Center talk *Hands on Mainframe*.)

Introduction to E-Mail: In-122

1410 Wednesday	12 April	Caroline Miller In-122

Every IBM mainframe user at NPS has two electronic mail addresses. This talk provides information on the electronic mail services supported by the Computer Center on the IBM mainframe. Two data networks will be introduced: the informal BITNET (Because It's Time NETwork) and the DDN (Department of Defense Network). Topics to be discussed include procedures for sending a short note to a local or remote computer, how to transfer files between different computers, and what information is available to assist in finding the network addresses for persons who may be contacted via the networks.

All other talks, described below, will be given in In-119, In-151, In-163, Ro-260, or Ro-262. *Signup for these sessions is required. Those interested in attending should sign up in the Consulting Office, In-146 to reserve a seat.*

Introduction to MS-DOS: Ro-262

1610 Monday	2 April	Jim Horning Ro-262
1610 Thursday	26 April	Kathy Strutynski Ro-262

Enrollment for these talks is open only to students and faculty. This is a combination 75-minute talk and lab session; it will be given twice. It is designed for beginners who are interested in learning how to use the operating system of any IBM or IBM-compatible microcomputer. Various elementary IBM Disk Operating System commands will be discussed. Use of, and naming conventions for, DOS files and other basic concepts will also be covered. In addition, participants will be given information on using the Micro Lab's Ungermann-Bass/Novell network.

APL and Related Programs on Microcomputers: Ro-260

1510 Tuesday	3 April	Prof. P.A.W. Lewis Ro-260

This talk discusses the versions of APL and APL2

which are available for micro computers. These include STSC's APL*PLUS version 9, STSC's APL*PLUS II Version 2, and IBM's APL2/PC and APL232/PC. These programs all feature full screen editors and session managers. The statistics package STATGRAPHICS, which is based on APL*PLUS, will be demonstrated and storage problems of the package will be discussed. Mainframe to micro communication, graphics and hardcopy output will also be covered.

Intro to Desk Top Publishing: In-151

1610 Wednesday	4 April	Tony Coloma In-151
1610 Monday	16 April	Jim Horning In-151

This combined talk and lab session lasts 75 minutes, and introduces desk top publishing using the Xerox workstation. Features covered include illustrations and graphics, tables, mathematical formulas, data driven graphics, transparencies for demonstrations, manipulating scanned images, and converting WordPerfect or ASCII files to Xerox and vice versa. This talk will be given twice.

Introduction to GML: In-119

1510 Wednesday	4 April	Larry Frazier In-119

Generalized Markup Language (GML) provides a set of commands that simplifies the task of using the DCF document composition facility of ScriptVS to prepare papers and other research publications on the mainframe. It takes care of footnotes, figures, tables, and mathematical formulas and will also generate a Table of Contents for your paper. Graphics from Dissppla and Grafstat may be printed directly with GML laser printer output. *Attendees should be familiar with the timesharing system.*

WordPerfect Fundamentals: Ro-262

First Series:		
1610 Thursday	5 April	Naren Tayal Ro-262
1610 Monday	9 April	Naren Tayal Ro-262
Second Series:		
1610 Monday	16 April	Kathy Strutynski Ro-262
1610 Thursday	19 April	Kathy Strutynski Ro-262
Third Series:		
1610 Monday	30 April	Kathy Strutynski Ro-262
1610 Thursday	3 May	Kathy Strutynski Ro-262

Enrollment for these talks is open only to students and faculty. Attendees must have a prior knowledge of fundamental Class space is limited. Sign up for one pair of talks only. MS-DOS commands either through attendance at a Computer Center talk or by training or practice elsewhere. The talk is given in two different classes. Each class takes 90 minutes and requires attendance at both parts. This series of two talks will be given three times this quarter. These talks are hands-on tutorials about WordPerfect in general; see elsewhere in this list of talks for a talk on the use of WordPerfect to produce a thesis in NPS-approved format.

WordPerfect is the most widely used word processor in the world. These talks will introduce you to most of its fundamental capabilities. You will also be shown how to use one of its special features — the spelling checker.

Introduction to GThesis: In-119

1510 Thursday	5 April	Larry Frazier In-119

GThesis is an addition to the IBM Script (DCF) document composition system that simplifies producing a thesis to NPS standards. The talk will be useful only to those with some familiarity with Script (GML). *Attendees should read the first three chapters of TN VM-14, the GThesis documentation, (available in In-146), and bring this reference to the talk.* See the related GML talk.

Introduction to GRAFSTAT: Ro-260

1510 Thursday	5 April	Prof. P.A.W. Lewis Ro-260

This talk will give a brief introduction to GRAFSTAT, an APL package for interactive scientific-engineering plotting, graphics output development, applied statistics, and data analysis. The program features a full-screen interface, complete on-line help, color graphics capability and effectively combines computation and graphics. Complete routines for least squares fitting, fitting of probability distributions, design and implementation of quality control charts, regression and time series analysis are available.

Intro to the Formula Formatter: In-119

1510 Monday 9 April Larry Frazier In-119

Those using GML and GThesis on the mainframe to prepare theses or other documents, and requiring the formatting of mathematical formulas, should attend this new presentation. Many find it possible to learn IBM's formula formatter using only printed documentation, but many will find the learning process simpler with this talk. Square roots, multi-line brackets, matrices, complex sub- and super-scripts, and much more are all formatted automatically by this package. *Attendees should be familiar with GML (Script) and the timesharing system.*

Those using WordPerfect may wish to attend one of the Center talks on new WordPerfect 5.1 features, which include its version of formula formatting.

WordPerfect for Theses: In-151

1510 Wednesday 11 April Larry Frazier In-151
1510 Monday 23 April Larry Frazier In-151
1510 Monday 7 May Larry Frazier In-151

This talk will be given three times. It covers the use of WordPerfect to produce a thesis in NPS-approved format. *Those attending this talk must be familiar with WordPerfect, and have a prior knowledge of fundamental MS-DOS commands* either through attendance at a Computer Center talk or by training or practice elsewhere. Topics covered include specific formatting requirements for theses, and Style Sheets developed at NPS to simplify the production of theses. On-line and printed documentation in the form of a sample thesis will be provided; this and the style sheet can be copied for use with WordPerfect 5.0 and 5.1 elsewhere.

Introduction to Minitab: In-119

1510 Wednesday 11 April Dennis Mar In-119

Minitab is an interactive statistical computing system available on VM/CMS. It is designed for moderate-size data sets which can be stored on a CMS A-disk. Minitab is quick and especially useful for exploring data, plotting, and regression analysis. *Attendees should be familiar with the timesharing system.*

Mainframe WordPerfect: In-119

1610 Wednesday 11 April Jim Horning In-119
1510 Monday 23 April Jim Horning In-119

WordPerfect 4.2 is available under VM/CMS. WordPerfect's spell-checker, thesaurus, on-line help, and formatting commands are all available. Centering, right adjust, tabs, margin changes, etc., take effect on the screen of any mainframe terminals as soon as you press Enter. Of particular benefit is fully-formatted printing on the high speed IBM 3800-3 mainframe printer.

Introduction to SAS: In-119

1510 Thursday 12 April Dennis Mar In-119

SAS, the Statistical Analysis System, is a flexible program for handling all phases of data analysis: retrieval, data management, statistical analysis, and report writing. It has excellent features for merging and subsetting data sets. The speaker will describe the required data format and SAS control statements for a simple problem. Both the batch and timesharing modes of execution will be demonstrated.

WordPerfect Tables, Equations & Graphics: Ro-262

1610 Thursday 12 April Naren Tayal Ro-262
1610 Monday 23 April Kathy Strutynski Ro-262

Enrollment for these talks is open only to students and faculty. This class takes 90 minutes, and will be given twice this quarter. Class space is limited. *Sign up is required. Attendees must have a prior knowledge of fundamental MS-DOS commands and WordPerfect 5.0* either through attendance at a Computer Center talk or by training or practice elsewhere. These talks are hands-on tutorials on the WordPerfect features of tables, equations and graphics.

Hands on Mainframe: In-364-E

1510 Thursday 12 April Helen Davis In-364-E

This session is designed for those who find the thought of learning to use the mainframe computer a bit intimidating; it combines the information from two separate lectures, *Introduction to VM/CMS* and

Introduction to XEDIT. This will be a single 90 minute class in a terminal room so that you can work with CMS, FILELIST, RDRLIST, and XEDIT during the session. Class size is limited to 14 due to the number of terminals.

Introduction to REXX: In-119

1510 Monday 16 April Dennis Mar In-119

REXX is a CMS command programming language. It is the successor to EXEC2. REXX is especially useful for creating personal execs and XEDIT macros. This introductory talk covers REXX input/output, variable manipulation, structured programming features, and embedding CP and CMS commands.

VS Fortran Topics: In-119

1510 Wednesday 18 April Roger Hilleary In-119

This talk is 90 minutes in length. It is designed to encourage FORTRAN users to familiarize themselves with more of the features of VS Fortran, the standard Fortran compiler on both the VM and MVS operating systems. VS Fortran includes Fortran 77 as one of its language levels. Newer features of Fortran 77 include CHARACTER variables, OPEN and INQUIRE statements, internal READ/WRITE, INCLUDE and PARAMETER statements, an IF-THEN-ELSE structure and much more.

Micro Lab Network

1610 Wednesday 18 April Jim Horning In-151
1610 Wednesday 25 April Jim Horning In-151

The Micro Lab is offering a class about using Novell networks, in particular the Micro Lab's network. This class assumes you are familiar with DOS commands, and DOS disk and file organization. During this class, you will be exposed to several network utilities that help you monitor printing, ask for extended file and directory information, list user information, list available network fileservers, etc.

Managing MVS Data Sets: In-163

1510 Thursday 19 April Dennis Mar In-163

This talk will cover the creation and use of data sets on the MVS disks. Topics discussed will include storage policies, the hierarchial storage manager, writing utility programs with MVSHELP, and copying CMS files with MVSDISK. Job Control Language and the SUBMIT command will not be explained.

Advanced MS-DOS: Ro-262

1610 Thursday 10 May Kathy Strutynski Ro-262

Enrollment for this talk is open only to students and faculty. Attendees must have a strong familiarity with fundamental MS-DOS commands . This is a combination lecture and lab session designed to increase your knowledge of the DOS operating system and help you become a more efficient user of your PC. You will learn how to use tree-structured directories to organize your files, how to create batch files to save time and keystrokes, and you will be introduced to the sophisticated commands and command filters of DOS 3.1 — ASSIGN, ATTRIB, BACKUP, FIND, MORE, SORT, etc.

Neil Harvey

MICRO LAB SUGGESTIONS

Plan Ahead for Thesis Printing

If you are planning to write your thesis with WordPerfect using the Micro Lab's facilities, or if you are writing your thesis elsewhere and would like to use the Micro Lab's printing facilities, be sure to lay a little ground work.

Even for experienced microcomputer users it takes a little time to get familiar with the Micro Lab network. The Micro Lab staff would appreciate your learning about our facilities early in the quarter. There can be frustrating problems if many users wait until the last minute to learn about printing on the network.

Even if you develop your thesis with your own computer, please do not come during the last few days of the quarter and assume there will be no glitches. For one thing, remember that WordPerfect formats your output according to the printer selected. Therefore, the font characteristics and page breaks you see on your home printer will not, in general, be the ones you see on ours.

It will be a much better policy occasionally to visit the lab and perform sample operations beforehand. Then, when the end of the quarter approaches and you must finish your thesis, you will be comfortable with our software and hardware, and you will not require inordinate amounts of individual assistance.

Jim Horning

PC Virus Advice

Building upon the virus article in the previous issue of the *Bulletin*, here is specific practical information on viruses, contributed by Professor Norm Schneidewind, of Administrative Science.

This information is presented for the benefit of PC users at NPS. The Computer Center Micro Lab does not have the manpower to assist with any of the measures described below. Also, note that all diskettes must be checked by Micro Lab staff before being used at the Micro Lab. Bringing the network back from a virus infection would require a major commitment of time and effort on the part of Micro Lab staff.

Measures to PREVENT viruses on IBM PCs:

- Periodically run a virus detection program against your hard disks and floppy diskettes.
- Watch for files that have the DOS extension COM with a greater than normal length. A common strain causes increases in these file lengths.
- Use write protect tabs on all diskettes that you are not writing on at the time. A typical problem is that a virus will turn a read operation into a write!

Measures to CURE viruses on IBM PCs:

- If a virus infects a hard disk and you cannot boot, you will have to repartition and reformat the disk, and reinstall all files on the hard disk. Simply reformattiing or rebooting won't work. Clearly, you must always have a current backup of your files.
- If you can boot but certain commands won't work (e.g., XCOPY), replace the suspect files with copies that are known to be uninfected. The same statement applies to infected files on diskettes.

Norman Schneidewind, 54Ss

VM/CMS MATTERS

Software Exec is Useful Tool

The Computer Center makes a concerted effort to keep users informed on all aspects of its resources. One executable program, however, that should be as well-known as the logon procedure seems to be lost in the heap of essential information to which users are constantly exposed.

Common questions for the staff are: "What kind of software is available on the mainframe?", and more specific questions like "Is the COBOL language available and how do I access it?" or "What's the name of the exec to cancel the job I just submitted?" Questions of that kind can be answered without finding a consultant through a very useful exec file called SOFTWARE. This exec contains a short description of each item of software, describing how hardcopy documentation may be found, how on-line information may be obtained, and on which system (MVS or CMS or both) the product is located.

SOFTWARE is accessed simply by typing **SOFTWARE** from CMS Ready mode. The first page entered is a full-screen menu that allows selections to be made from subjects covering most of the software on both the mainframe and in the Micro Lab (In-151). This information includes compilers (FORTRAN, COBOL, etc.), graphics packages (DISSPLA, ICU, etc.), mathematical libraries (IMSL, EISPACK, etc.), EXEC files (executable programs written for specific functions in CMS, such as SOFTWARE itself), text processors (SCRIPT, WordPerfect, etc.), and many more topics.

With such a long list of commands to remember in the computer world, any method to abbreviate the search process should not be overlooked. SOFTWARE accomplishes this by providing important information in an easily accessible form, ...and, there is only one name to remember!

For any questions, please contact Neil Harvey, In-108, x2088, 1770p.

Karen Yates

VM Looks a Lot Like a PC

When you log on to the mainframe computer you are connected to a Virtual Machine (VM). Even though this machine doesn't look like a PC physically, VM's Control Program (CP) structures it to be like a PC logically.

Your virtual machine has 1 megabyte of CPU (RAM-like) memory, and you can easily increase this to 1.5M.

An A-disk is attached to your VM. This A-disk is like the fixed disk (C drive) on a PC, but you don't have to give up part of it for the operating system. It has more than 2 megabytes of read/write disk storage space. If you need more read/write disk storage space, you may access additional minidisks which are temporary (used only during a session).

Working under CP is the Conversational Monitor System (CMS). This is the operating system with which all VM users interact. Like DOS, CMS allows you to create, compile, execute and test programs, and to create and manage files.

You are also linked to two read-only disks. On these disks the computer center staff stores and maintains help files, programs, languages and software for you to use.

The word processors under CMS are Script and WordPerfect 4.2. These are powerful tools for thesis writing and report processing. The editor is XEDIT. This is used to create and modify files. (It's almost impossible to use the mainframe without using XEDIT, just as most DOS users employ EDLIN or another editor or word processor.)

Your VM also accesses the Multiple Virtual System (MVS). MVS is the batch processor, and this is used for processing very large data sets, running programs that require a lot of CPU time, and other tasks. This facility is unlike anything available on the typical PC.

Under VM your "virtual reader" serves as a medium for input of external data or programs, just like a floppy drive. You also have a virtual printer for output of results.

An advantage of VM is the cornucopia of documentation. Simply entering the command SOFTWARE will access an on-line directory of all products, with brief descriptions, available on our system. Typing DOCFILE gives the location of documentation for the software on the system. The inside front cover of Tech Note VM-01 *User's Guide to VM/CMS at NPS* has a list of on-line help files.

In addition to this on-line help, the Computer Center staff provides these other services: The Center publishes technical notes (available in In-146) on using this system and its software. Twice a quarter this *Bulletin* is published, with articles on current topics. At the beginning of each quarter we give introductory talks on a variety of topics. (See the schedule in this issue.) A consultant is at the help-desk in In-146 from 0900-1130 and 1315-1545 weekdays to help you with using this system. Each consultant specializes in certain topics. Appointments can be made for detailed consultation.

You may have used only PCs before and never used a mainframe. There are a lot of useful applications under VM and a lot of tasks a PC cannot handle. Come to the "Introduction to VM/CMS" talk for starters and then give VM a try.

Helen Davis

Changes in PSEG and DISSPOP Execs

The new color printer located in In-110 can now be accessed through the PSEG and DISSPOP execs. The printer, a Tektronix 4693 thermal color printer, discussed in the December issue of the Computer Center *Bulletin,* will print both IBM's ADMGDF files (through PSEG) and CA-Dissplа metafiles (through DISSPOP).

The Tek4693 may be accessed through PSEG by selecting option 'b' from 'Printer Choices'. The line width of the chart to be processed may be modified by the new 'Line Width' option, using values that range from 0 to 4, with 0 as the default. The options that follow 'Line Width' are not used by the color printer.

To access the new printer through DISSPOP, specify the 'CX4510' option from the DISSPOP menu and proceed as usual through the EXEC.

This printer is available to all users, but before using it, be sure to make arrangements with June Favorite, In-110, x3432 or Ruth Roy, In-109, x2796.

Karen Yates

LANGUAGE NOTES

Removing ALGOL-W Compiler

The ALGOL-W language compiler on the mainframe was obtained from Stanford University and was a popular language in the 1970's. However, our accounting system indicates that it has not been used for several years, so we are considering removing it from the mainframe.

Anyone who is interested in ALGOL-W, or has any requirement for its continued presence on the mainframe, is asked to contact Neil Harvey of the User Services Group at x2088 or send a message to userid 1770P.

ALGOL is available only on MVS and the following MVS catalog procedures, in addition to the compiler, are under consideration for removal:

Procedure	*Purpose*
ALGWC	Compile Only
ALGOLW	One step (Compile, Link Edit & Execute)
ALGWCLG	Compile, Link EDit & Execute
ALGWCL	Compile and Link Edit
ALGWCLX	Special version of ALGWCLG with the SYSOUT references supplied by the user instead of the cataloged procedure.

Neil Harvey

FORTRAN Programming Strategy

This article is a cautionary tale to anyone trying to install a Fortran program on the IBM 3033 from another computer, or to modify an existing program already running on our system.

Too often people working on such projects learn the next two statements are equivalent to "the check is in the mail."

- This program should work without any changes. It has been running at Brand X computer center for years.
- This program should work without any more changes. I only made one small change in a FORMAT statement.

Anyone who has served as a programming consultant for any length of time knows that neither of these two statements can be trusted.

Every once in a while an old program can be modified or transplanted with no problem. But if this is a task that you must undertake, it is better to prepare yourself for the worst. What is "worst" in typical situations?

- You add a WRITE statement. The program compiles. The program bombs in a subroutine you never touched.
- The imported program compiles. You try a different data set. The program goes into an infinite loop. You expend all your CRUs for the quarter.

Sometimes programs run because of good luck. Deficiencies such as an uninitialized variable or an index out of range may exist but cause no problems. But introduce a slight change in the code or change the operating system, and problems erupt.

So where are you going to get help? Of course, Watfor-77.

The Watfor-77 (WF77) processor is our best tool for debugging Fortran programs. WF77 easily finds uninitialized variables, mis-matched subroutine arguments, and array indices out-of-range. The WF77 DEBUG facility offers an easy-to-use program trace.

The IMSL 9.2 and 10 libraries are both available in WF77. So are the LLRandomII random number generators and DISSPLA subroutine stubs. (The DISSPLA calls are only dummies: the subroutines return a message to the screen but do not plot.)

After WF77 is used to debug a program, VS Fortran should be used for production runs. VS Fortran offers speed (perhaps ten times faster than WF77) and useful features (DISSPLA graphics, availability on MVS).

There are minor differences between VS Fortran and Watfor-77. For example, VS Fortran provides DFLOAT to convert an integer value to a double precision real number; in Watfor-77 that is done by DBLE. Also, OPEN statements are not consistent between the two processors, and WF77 does not support name lists.

It takes time to resolve these inconsistencies. It is time well-spent. After many bitter experiences local Fortran

consultants usually will not even try to modify a Fortran program which will not run under WF77.

For information about using WF77 on the IBM 3033, see Computer Center Technical Note VM-01, *User's Guide to VM/CMS at NPS*. Copies of this publication are available in the Consulting Office (In-146). For information about the Watfor-77 processor and Watfor-77 extensions to the Fortran 77 standard, see Coschi & Schueler, *Watfor-77 Language Reference* and *Watfor-77 User's Guide IBM 370 VM/SP CMS* by the same authors. These two books may be reviewed in the Consulting Office.

Dennis Mar

OPERATIONS INFORMATION

CONSULTING HOURS

Mon-Fri 0900-1130 and 1315-1545 in In-146

Reference materials in the Consulting Office must not be removed from that room without special permission of the Consultant on duty or a Computer Operations Shift Supervisor.

HOURS OF OPERATION

VM/CMS and MVS are available 24 hours a day, 7 days a week. Preventive maintenance is normally performed 0700-1400 hours, first Sunday of each month. Systems work may occasionally be performed between 0700 and 1200 on Saturdays; advance notice is given in the VM/CMS log message.

Call 646-2713 for recorded system status.

MICRO LAB CONSULTING HOURS

1000-1200 and 1330-1700 Monday - Friday

MICRO LAB OPEN HOURS

0900-2000 Monday-Thursday
0900-1630 Friday
0900-1700 Sunday

See Micro Lab assistants during consulting hours for combination to access Lab when it is closed.

MVS Job Queue Restrictions

No more than 3 MVS (Batch) jobs per individual may be executing and/or waiting execution. This policy allows each individual a fair share of batch processing capacity, and prevents spooling overload problems. Excess jobs will be cancelled.

Information on Printed Output

The Computer Center has an IBM 3800 non-impact printer and a 3262 impact printer in In-140. These printers are available around the clock, 7 days a week. (See "HOURS OF OPERATION"). If you want a printer unloaded, expect to wait until an operator is available. However, if you have received instruction from a computer operator, you may remove printout from either printer. If you do, please leave separated output on the counter-top, or file it by distribution code. Please observe these rules:

- Press the READY button after removing output.
- Make sure output is folding correctly in the output hopper.
- Separate all jobs in the batch of output removed from the printer.

Avoid unnecessary printing. Return output to your terminal for review and editing prior to printing. Use the default output class, SYSOUT=A, for general output from MVS. This produces two output pages per sheet of paper on the 3800 page printer.

Budget restrictions and good computing practice dictate that only one final copy of a thesis be produced on any of the Center's printers. If more than one copy is required, use of duplication facilities on campus is recommended. But please note that the NPS printshop will not cut or bind more than one personal copy.

Please put unwanted printout in any trash container in In-140, In-141, or In-151, for recycling.

This publication is published as required and is written by members of the staff, W. R. Church Computer Center (Code 0141), Naval Postgraduate School, Monterey, CA 93943. Send requests for information or suggestions for articles to the User Services Manager, Code 0141 (In-133), 646-2752 (messages: x2573). Bitnet: 0002P@NAVPGS

The Center operates an IBM 3033 Attached Processor System (16 megabytes) loosely coupled with an IBM 3033 Model U (16 megabytes) and an IBM 4381 Model P13 (16 megabytes). Interactive computing is provided under VM/SP CMS, batch-processing under MVS with JES3 networking.

Distribution: List 3, plus: 350-B3, 3-B4, 10-F3, 3-F4, 1-F6, 1-F7, 12-PERSEREC